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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,419	09/30/2005	Claudio Borean	09952.0003	4050
22852	7590	11/12/2008		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER AGHDAM, FRESHTEH N	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 11/12/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/551,419

**Applicant(s)**

BOREAN ET AL.

**Examiner**

FRESHTEH N. AGHDAM

**Art Unit**

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/CDC)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

Figures 1-3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 42-44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 42-44 each claims a program product loadable in the internal memory of a computer and including software code portions, which is directed to a non-statutory subject matter.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 23-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over the instant application's disclosed prior art.

As to claims 23, 25, 28-29, 34, the instant application's disclosed prior art teaches a method of and/or an apparatus for managing a transmission system wherein a plurality of sets of samples is subject to an integral transform (e.g. IFFT) transmitted in said integral transformed format and subject to a complementary integral transform (FFT) to reconstruct said plurality of sets of samples in the receiver (pg. 7, lines 22-26), comprising: including in said system a plurality of terminals (pg. 1, lines 20-27; pg. 9, lines 16-35); assigning to said terminals respective non-overlapping sets of samples or positions within said plurality of sets of samples (pg. 9, lines 16-35); and transmitting a set of non-zero samples pertaining to a first terminal of said plurality of terminals by inserting said samples in the respective position assigned to said first terminal (pg. 9, lines 16-35). The instant application's disclosed prior art does not expressly teach that the sample sets are non-overlapping (e.g. the plurality of sample sets do not occupy the same positions/subspace in the buffer). One of ordinary skill in the art would recognize that it is obvious and/or a design choice to assign different/distinct (non-overlapping) subspaces in a buffer to different sets of samples belonging to different terminals since by doing so the signal processing speed increases, on the other hand, if the same

subspace in a buffer is assigned to different sample sets belonging to different terminals the signal processing speed decreases but the other subspaces in the buffer is saved for other tasks in the system. Therefore, it would have been obvious to one of ordinary skill in the art to modify the teaching of the instant application's disclosed prior art to assign different/distinct (non-overlapping) subspaces in a buffer to different sets of samples belonging to different terminals instead of assigning a single subspace in the buffer to different sample sets belonging to different terminals for the reason stated above.

As to claims 24 and 30, the instant application's disclosed prior art further teaches including at least one further terminal adapted for exchanging samples with said plurality of terminals and causing said at least one further terminal to subject to at least one of said integral transform and said complementary integral transform a plurality of sets of samples including at least two overlapping sets of non-zero samples pertaining to at least two of the plurality of terminals (pg. 13, lines 12-21).

As to claims 26-27, 32-33, 36-37, 40-41, the instant application's disclosed prior art teaches transmitting said samples in said integral transformed format over a millimeter-wave carrier (pg. 2, lines 4-12).

As to claim 31, the instant application's disclosed prior art teaches at least one further terminal is an access point of a WLAN network (pg. 2, lines 13-16; pg. 13, lines 12-21).

As to claim 35, the instant application's disclosed prior art teaches allocating at least a single set of non-zero samples in a single respective set of positions of said

buffer, which is indicative of said transmitter terminal (pg. 1, lines 20-27; pg. 9, lines 16-35).

As to claims 38-39, the instant application's disclosed prior art teaches a receiver for receiving samples transmitted in said integral transformed format (pg. 1, lines 20-27; pg. 9, lines 16-35); a complementary integral transform module for subjecting said sets of samples to a complementary integral transform and reconstructing therefrom said at least one set of nonzero samples (pg. 1, lines 20-27; pg. 9, lines 16-35). The instant application's disclosed prior art does not expressly teach a buffer for receiving said plurality of sets of samples (means 43; pg. 9, lines 16-35); and allocating at least one set of the nonzero samples to the respective positions of said buffer. However, one of ordinary skill in the art would recognize that employing a buffer complementary to the buffer 43 employed in the transmitter and allocating the set of nonzero samples to a subspace of the buffer is obvious and/or well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ a buffer and allocate the set of received nonzero samples to the respective subspace of the receive buffer (complementary to the transmit buffer) in order to further process the received signal and be compatible with the transmitter device.

As to claims 42-44, one of ordinary skill in the art would recognize that it is obvious and/or well known in the art to perform various signal processing tasks using a computer program product loadable in the internal memory of a computer and including software code portions. Therefore, it would have been obvious to one of ordinary skill in the art to use a computer program product to perform various signal processing tasks.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sugar et al (US 2006/0013327) and Jeong et al (US 7,280,603).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRESHTEH N. AGHDAM whose telephone number is (571)272-6037. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Freshteh N Aghdam/

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Examiner, Art Unit 2611

/CHIEH M FAN/

Supervisory Patent Examiner, Art Unit 2611